

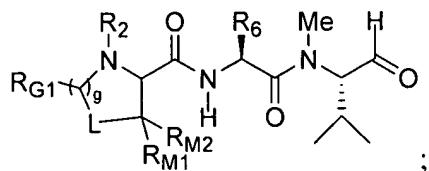
AMENDMENTS TO THE CLAIMS

The following **Listing of Claims**, incorporating the claim amendments made under Article 19 of the PCT, will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-45 (Canceled)

46. **(Previously Presented)** An intermediate having the structure:



wherein g is 1, 2, 3 or 4;

R₂ is hydrogen, or a substituted or unsubstituted, linear or branched, cyclic or acyclic, or saturated or unsaturated lower alkyl, heteroalkyl, -alkyl(aryl) or acyl moiety;

R₆ is substituted or unsubstituted, linear or branched, cyclic or acyclic, or saturated or unsaturated lower alkyl;

L is CR_{L1}R_{L2}, S, O or NR_{L3}, wherein each occurrence of R_{L1}, R_{L2} and R_{L3} is independently hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety;

each occurrence of R_{G1}, R_{M1} and R_{M2} is each independently hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety; and
wherein any two adjacent R_{L1}, R_{L2}, R_{L3}, R_{G1}, R_{M1} or R_{M2} groups, taken together, form a substituted or unsubstituted alicyclic or heteroalicyclic moiety containing 3-6 atoms or an aryl or heteroaryl moiety.

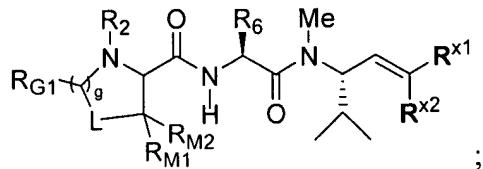
Claims 47-52 (Canceled)

53. **(Original)** The intermediate of claim 46 having the structure:



Claims 54-61 (Cancelled)

62. **(Previously Presented)** An intermediate having the structure:



wherein R^{x1} and R^{x2} are independently hydrogen, aliphatic, alicyclic or aryl;

g is 1, 2, 3 or 4;

L is $CR_{L1}R_{L2}$, S, O or NR_{L3} , wherein each occurrence of R_{L1} , R_{L2} and R_{L3} is independently hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety;

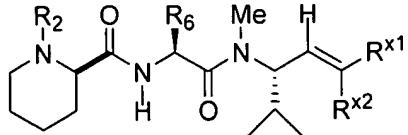
each occurrence of R_{G1} , R_{M1} and R_{M2} is each independently hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety; and

wherein any two adjacent R_{L1} , R_{L2} , R_{L3} , R_{G1} , R_{M1} or R_{M2} groups, taken together, form a substituted or unsubstituted alicyclic or heteroalicyclic moiety containing 3-6 atoms or an aryl or heteroaryl moiety;

R_2 is hydrogen, $-(C=O)R_C$ or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety; wherein each occurrence of R_C is independently hydrogen, OH, OR_D , or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety; wherein R_D is an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety; and

R_6 is hydrogen, $-(C=O)R_E$ or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety, wherein each occurrence of R_E is independently hydrogen, OH, OR_F , or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety; wherein R_F is an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety.

63. **(Previously Presented)** The intermediate of claim 62 having the structure:



64. **(Currently Amended)** The intermediate of ~~claim 62 or 63~~ claim 63 wherein R^{x1} and R^{x2} are independently hydrogen, alkyl or aryl.

65. **(Currently Amended)** The intermediate of ~~claim 62 or 63~~ claim 63 wherein R^{x1} and R^{x2} are each hydrogen.

66. **(Currently Amended)** The intermediate of ~~any one of claims 46, 53, 62 and 63~~ claim 53 or 63 wherein R₂ is hydrogen, or a substituted or unsubstituted, linear or branched, cyclic or acyclic, or saturated or unsaturated lower alkyl, heteroalkyl, -alkyl(aryl) or acyl moiety.

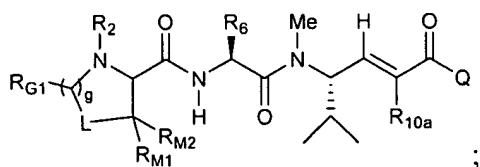
67. **(Previously Presented)** The intermediate of claim 66 wherein R₂ is methyl, ethyl, propyl, butyl, pentyl, *tert*-butyl, *i*-propyl, -CH(CH₃)Et, -CH(CH₃)CH₂CH₂CH₃, -CH(CH₃)CH₂CH₂CH₂CH₃, -CH₂CH(CH₃)₂, -CH(CH₃)CH(CH₃)₂, -C(CH₃)₂Et, -CH(CH₃)cyclobutyl, -CH(Et)₂, -C(CH₃)₂C≡CH, cyclohexyl, cyclopentyl, cyclobutyl or cyclopropyl.

68. **(Previously Presented)** The intermediate of claim 66 wherein R₂ is methyl, ethyl, propyl or *i*-propyl.

69. **(Currently Amended)** The intermediate of ~~any one of claims 46, 53, 62 and 63~~ claim 53 or 63 wherein R₆ is methyl, ethyl, propyl, butyl, pentyl, *tert*-butyl, *i*-propyl, -CH(CH₃)CH₂CH₃, -CH₂CH(CH₃)₂, cyclohexyl, cyclopentyl, cyclobutyl or cyclopropyl; and R₂ is methyl, ethyl, propyl, butyl, pentyl, *tert*-butyl, *i*-propyl, -CH(CH₃)Et, -CH(CH₃)CH₂CH₂CH₃, -CH(CH₃)CH₂CH₂CH₂CH₃, -CH₂CH(CH₃)₂, -CH(CH₃)CH(CH₃)₂, -C(CH₃)₂Et, -CH(CH₃)cyclobutyl, -CH(Et)₂, -C(CH₃)₂C≡CH, cyclohexyl, cyclopentyl, cyclobutyl or cyclopropyl.

70. **(Previously Presented)** The intermediate of claim 69 wherein R₆ is *tert*-butyl.
71. **(Currently Amended)** The intermediate of ~~any one of claims 46, 53, 62 and 63~~ claim 53 or 63 wherein R_{G1} is hydrogen, substituted or unsubstituted, linear or branched, cyclic or acyclic, or saturated or unsaturated lower alkyl or substituted or unsubstituted phenyl.
72. **(Previously Presented)** The intermediate of claim 71 wherein R_{G1} is hydrogen, methyl or phenyl.
73. **(Previously Presented)** The intermediate of claim 71 wherein R_{G1} is hydrogen.
74. **(Currently Amended)** The intermediate of ~~any one of claims 46, 53, 62 and 63~~ claim 53 or 63 wherein R_{M1} and R_{M2} are each independently hydrogen, hydroxyl, a substituted or unsubstituted, linear or branched, cyclic or acyclic, or saturated or unsaturated lower alkyl moiety; a substituted or unsubstituted phenyl moiety, or R_{M2} is absent when R_{M1} and the substitutents on L, taken together, form a substituted or unsubstituted aryl or heteroaryl moiety.
75. **(Previously Presented)** The intermediate of claim 74 wherein R_{M1} and R_{M2} are each hydrogen.
76. **(Currently Amended)** The intermediate of ~~any one of claims 46, 53, 62 and 63~~ claim 53 or 63 wherein L is CR_{L1}R_{L2} wherein R_{L1} and R_{L2} are each independently hydrogen, substituted or unsubstituted, linear or branched, cyclic or acyclic, or saturated or unsaturated lower alkyl or substituted or unsubstituted phenyl.
77. **(Previously Presented)** The intermediate of claim 76 wherein L is CH₂.

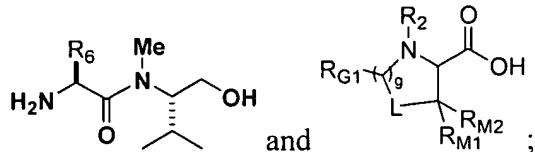
78. **(Previously Presented)** A method for preparing a compound of formula VI^A:



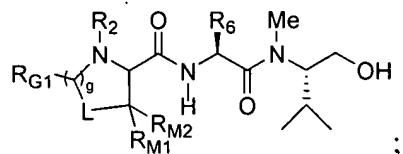
(VI^A)

said method comprising steps of:

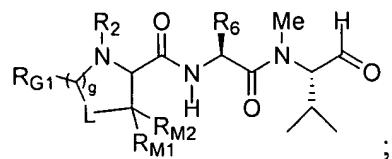
(a) reacting two compounds having the structures:



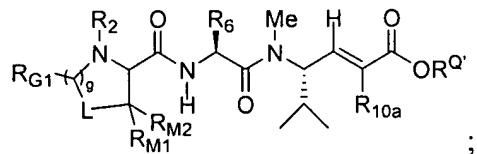
under suitable conditions to form a compound having the structure:



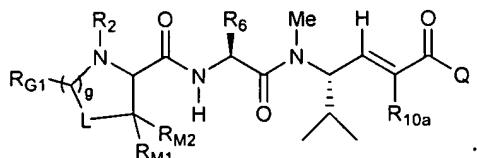
(b) oxidizing the compound formed in step (a) under suitable conditions to form a compound having the structure:



(c) subjecting the compound formed in step (b) to suitable olefin-forming conditions to form a compound having the structure:



(d) subjecting the compound formed in step (c) to suitable diversification reactions to generate the desired compound having the structure:



(VI^A)

wherein g is 1 or 2;

$R^{Q'}$ is hydrogen, lower alkyl or an oxygen protecting group;

R_2 and R_6 are independently substituted or unsubstituted linear or branched lower alkyl;

R_{10a} is hydrogen or substituted or unsubstituted, linear or branched, cyclic or acyclic, or saturated or unsaturated lower alkyl;

L is $CR_{L1}R_{L2}$, S, O or NR_{L3} , wherein each occurrence of R_{L1} , R_{L2} and R_{L3} is independently hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety;

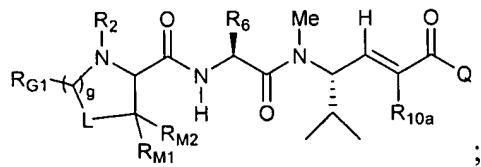
each occurrence of R_{G1} , R_{M1} and R_{M2} is each independently hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety; and

wherein any two adjacent R_{L1} , R_{L2} , R_{L3} , R_{G1} , R_{M1} or R_{M2} groups, taken together, form a substituted or unsubstituted alicyclic or heteroalicyclic moiety containing 3-6 atoms or an aryl or heteroaryl moiety.

79. **(Previously Presented)** The method of claim 78 wherein, in the step of oxidizing, the conditions comprise Swern or Dess Martin oxidizing conditions.

80. **(Previously Presented)** The method of claim 78 wherein, in step (c), the olefin-forming conditions comprise $Ph_3P=C(R_{10a})CO_2R^{Q'}$; wherein $R^{Q'}$ is hydrogen, lower alkyl or an oxygen protecting group; and R_{10a} is as defined generally above and in classes and subclasses herein.

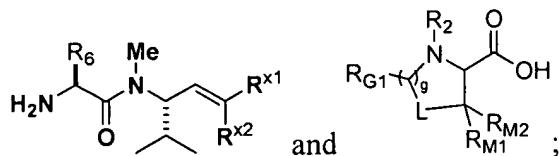
81. **(Previously Presented)** A method for preparing a compound of formula VI^A:



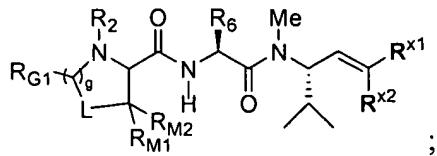
(VI^A)

said method comprising steps of:

(a) reacting two compounds having the structures:

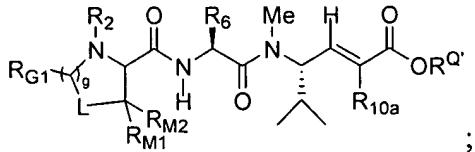


under suitable conditions to form a compound having the structure:

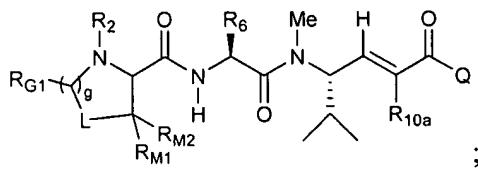


wherein R^{X1} and R^{X2} are independently hydrogen, alkyl, heteroalkyl, aryl or heteroaryl;

(b) converting the compound formed in step (a) under suitable conditions to form a compound having the structure:



(c) subjecting the compound formed in step (b) to suitable diversification reactions to generate the desired compound having the structure:



(VI^A)

wherein g is 1 or 2;

R^Q is hydrogen, lower alkyl or an oxygen protecting group;

R_2 and R_6 are independently substituted or unsubstituted linear or branched lower alkyl;

R_{10a} is hydrogen or substituted or unsubstituted, linear or branched, cyclic or acyclic, or saturated or unsaturated lower alkyl;

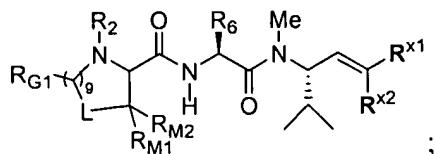
L is $CR_{L1}R_{L2}$, S, O or NR_{L3} , wherein each occurrence of R_{L1} , R_{L2} and R_{L3} is independently hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety;

each occurrence of R_{G1} , R_{M1} and R_{M2} is each independently hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety; and

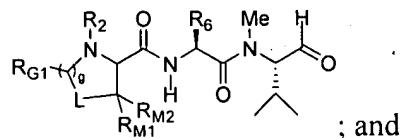
wherein any two adjacent R_{L1} , R_{L2} , R_{L3} , R_{G1} , R_{M1} or R_{M2} groups, taken together, form a substituted or unsubstituted alicyclic or heteroalicyclic moiety containing 3-6 atoms or an aryl or heteroaryl moiety.

82. **(Previously Presented)** The method of claim 81 wherein the step of converting comprises steps of:

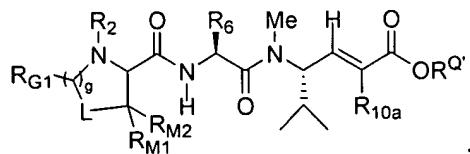
(i) subjecting the compound having the structure:



to ozonolysis conditions to form an aldehyde having the structure:



(ii) subjecting the compound formed in step (i) to suitable olefin-forming conditions to form a compound having the structure:



83. **(Previously Presented)** The method of claim 81 wherein, in step (ii), the olefin-forming conditions comprise $\text{Ph}_3\text{P}=\text{C}(\text{R}_{10a})\text{CO}_2\text{R}^{Q'}$; wherein $\text{R}^{Q'}$ is hydrogen, lower alkyl or an oxygen protecting group; and R_{10a} is as defined generally above and in classes and subclasses herein.

84. **(Previously Presented)** The method of claim 81 wherein, the step of converting comprises a step of:

subjecting the compound having the structure:



to cross-olefin-metathesis conditions in the presence of $\text{CH}_2=\text{C}(\text{R}_{10a})\text{CO}_2\text{R}^{Q'}$ to form a compound having the structure:

